

Handwritten mark



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/804,979	03/13/2001	Christophe Loisey	60001.0007US01/MS# 154659	9362
27488      7590      02/28/2005 MICROSOFT CORPORATION C/O MERCHANT & GOULD, L.L.C. P.O. BOX 2903 MINNEAPOLIS, MN 55402-0903			EXAMINER SHARON, AYAL I	
			ART UNIT 2123	PAPER NUMBER

DATE MAILED: 02/28/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/804,979

Applicant(s)

LOISEY ET AL.

Examiner

Ayal I Sharon

Art Unit

2123

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 19 August 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-33 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-33 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 13 March 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 8/6/2004.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

## **DETAILED ACTION**

### ***Introduction***

1. Claims 1-33 of U.S. Application 09/804,979, originally filed on 03/13/2001 are presented for examination.
2. In response to the previous Office Action, the Applicants have filed an IDS, dated 8/6/2004, which includes a search report from the EPO for identical co-pending European Application EP 02 00 5060.
3. The Applicants also have submitted a Request for Reconsideration, dated 8/19/2004. The claims have not been amended, and no claims have been added or cancelled.
4. Examiner has withdrawn the prior art rejections, in response to Applicant's persuasive arguments. However, new art rejections have been applied, based on the "Richardson" reference, which is designated as an "X" reference in the EPO search report. This action is final, as necessitated by Applicant's IDS.

### ***Claim Rejections - 35 USC § 102***

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Art Unit: 2123

6. The prior art used for these rejections is as follows:
7. Richardson et al. "Virtual Network Computing", IEEE Internet Computing. Vol.2, No.1, Jan. 1998. pp.33-38. (Henceforth referred to as "**Richardson**").
8. The claim rejections are hereby summarized for Applicant's convenience. The detailed rejections follow.
9. **Claims 1-7, 9-20, 22-24, 26-32 are rejected under 35 U.S.C. 102(b) as being anticipated by Richardson.**
10. In regards to claim 1, Richardson teaches the following limitations:

1. A method of providing computing services in a networked computing environment, comprising the steps of:

- providing a computing device a software module from a remote computing device for allowing exchange of data between the computing device and the remote computing device;

- (Richardson, especially: p.33; and p.34, left column, "Thin Clients" section; and p.36, "VNC Viewers" and "VNC Servers" sections)

Examiner interprets that:

- (a) the "user's terminal" correspond to the claimed "a computing device;
  - (b) the "VNC server" corresponds to the claimed "remote computing device";
  - (c) the "VNC viewer" corresponds to the claimed "a software module";

- providing the computing device, through the software module, an emulation of an operating system of the remote computing device;

- (Richardson, especially: pp.33-34 and Fig.2)

Examiner interprets the claimed "emulation" as corresponding to Richardson's teaching that (see p.33, para.1): "In the virtual network computing (VNC) system, server machines supply not only applications and data but also an entire desktop environment that can be accessed from any Internet-connected machine using a simple *software NC*."

Examiner finds that since the client has no operating system of its own, it is inherent that it emulates the one stored in the server.

- providing the computing device, through the software module, an emulation of the computing device's desktop configuration, the desktop configuration being passed to the computing device from the remote computing device;

(Richardson, especially: pp.33-34 and Fig.2)

Examiner interprets the claimed "emulation" as corresponding to Richardson's teaching that (see p.33, para.1): "In the virtual network computing (VNC) system, server machines supply not only applications and data but also an entire desktop environment that can be accessed from any Internet-connected machine using a simple *software* NC."

Examiner interprets Richardson's "entire desktop environment" correspond to applicant's "desktop configuration".

monitoring actions at the computing device by the operating system of the remote computing device;

(Richardson, especially: pp.33-34 and Fig.2)

Richardson teaches (see p.33, para.1): "Whenever and wherever a VNC desktop is accessed, its state and configuration (right down to the position of the cursor) are exactly the same as when it was last accessed."

It is therefore inherent that the actions at the client are monitored by the server.

in response to the actions at the computing device, updating the emulation of the operating system provided to the computing device; and

(Richardson, especially: pp.33-34 and Fig.2)

Richardson teaches (see p.33, para.1): "Whenever and wherever a VNC desktop is accessed, its state and configuration (right down to the position of the cursor) are exactly the same as when it was last accessed."

It is therefore inherent that the actions at the client result in updates at the server.

in response to the actions at the computing device, updating the emulation of the desktop configuration provided to the computing device.

(Richardson, especially: pp.33-34 and Fig.2)

Richardson teaches (see p.33, para.1): "Whenever and wherever a VNC desktop is accessed, its state and configuration (right down to the position of the cursor) are exactly the same as when it was last accessed."

It is therefore inherent that the updates at the server are then reflected in the virtual desktop displayed in the client.

11. In regards to claim 2, Richardson teaches the following limitations:

2. The method of Claim 1, prior to the step of providing a computing device a software module from a remote computing device, further comprises the steps

Art Unit: 2123

of:

connecting a computing device to a remote computing device via a networked computing environment.

(Richardson, especially: pp.35-36, right column, "Connection Setup and Shutdown" section)

12. In regards to claim 3, Richardson teaches the following limitations:

3. The method of Claim 2, wherein the step of connecting a computing device to a remote computing device via a networked computing environment, further comprises the steps of:

connecting the computing device to the remote computing device via the Internet.

(Richardson, especially: pp.33, second paragraph)

13. In regards to claim 4, Richardson teaches the following limitations:

4. The method of Claim 2, wherein the step of connecting a computing device to a remote computing device via a networked computing environment, further comprises the steps of:

connecting the computing device to the remote computing device via an intranet.

(Richardson, especially: pp.33, second paragraph)

14. In regards to claim 5, Richardson teaches the following limitations:

5. The method of Claim 2, wherein the step of connecting a computing device to a remote computing device via a networked computing environment, further comprises the steps of:

authenticating authority for the computing device to connect to the remote computing device.

(Richardson, especially: pp.35-36, right column, "Connection Setup and Shutdown" section)

15. In regards to claim 6, Richardson teaches the following limitations:

6. The method of Claim 1, wherein the step of providing a computing device a software module from a remote computing device, further comprises the steps of:

providing the computing device a web page from the remote computing device, the web page having the software module embedded therein.

(Richardson, especially: pp.34-35, right column, "Java: Access Through a Browser" section)

16. In regards to claim 7, Richardson teaches the following limitations:

Art Unit: 2123

7. The method of Claim 6, wherein the remote computing device includes a web server, and wherein the step of providing the computing device a web page includes providing the web page through the web server.

(Richardson, especially: pp.34-35, right column, "Java: Access Through a Browser" section)

Examiner finds it to be inherent that web pages are provided through web servers.

17. In regards to claim 9, Richardson teaches the following limitations:

9. The method of Claim 1, wherein the actions at the computing device include keyboard strokes, mouse movements, and mouse clicks.

(Richardson, especially: pp.33-34 and Fig.2)

Richardson teaches (see p.33, para.1): "Whenever and wherever a VNC desktop is accessed, its state and configuration (right down to the position of the cursor) are exactly the same as when it was last accessed."

It is therefore inherent that the actions at the client are monitored by the server.

18. In regards to claim 10, Richardson teaches the following limitations:

10. The method of Claim 1, further comprising the step of:

providing the computing device use of a software application, the software application being resident on the remote computing device.

(Richardson, especially: pp.33-34 and Fig.2)

Examiner interprets the claimed "emulation" as corresponding to Richardson's teaching that (see p.33, para.1): "In the virtual network computing (VNC) system, server machines supply not only applications and data but also an entire desktop environment that can be accessed from any Internet-connected machine using a simple *software NC*."

Examiner interprets Richardson's "applications and data" correspond to applicant's "software application".

19. In regards to claim 11, Richardson teaches the following limitations:

11. The method of Claim 10, wherein the step of providing the computing device use of a software application, further comprises the steps of:

providing a plurality of software applications subscribed to for use by the computing device; and

(Richardson, especially: pp.33-34 and Fig.2)

Art Unit: 2123

Examiner interprets the claimed "emulation" as corresponding to Richardson's teaching that (see p.33, para.1): "In the virtual network computing (VNC) system, server machines supply not only applications and data but also an entire desktop environment that can be accessed from any Internet-connected machine using a simple *software NC*."

Examiner interprets Richardson's "applications and data" correspond to applicant's "software application".

providing changes to the plurality of software applications at the remote computing device.

(Richardson, especially: pp.33-34 and Fig.2)

Richardson teaches (see p.33, para.1): "Whenever and wherever a VNC desktop is accessed, its state and configuration (right down to the position of the cursor) are exactly the same as when it was last accessed."

It is therefore inherent that application data is stored by the server.

20. In regards to claim 12, Richardson teaches the following limitations:

12. The method of Claim 11, wherein the remote computing device includes a terminal server, and wherein the step of providing the computing device use of a software application, further comprises the step of providing the software module and the software application through the terminal server.

(Richardson, especially: pp.33-34 and Fig.2)

Examiner interprets the claimed "emulation" as corresponding to Richardson's teaching that (see p.33, para.1): "In the virtual network computing (VNC) system, server machines supply not only applications and data but also an entire desktop environment that can be accessed from any Internet-connected machine using a simple *software NC*."

21. In regards to claim 13, Richardson teaches the following limitations:

13. The method of Claim 1, further comprising the steps of:

receiving data from the computing device;

(Richardson, especially: pp.33-34 and Fig.2)

storing the data received from the computing device on the remote computing device;

(Richardson, especially: pp.33-34 and Fig.2)

Richardson teaches (see p.33, para.1): "Whenever and wherever a VNC desktop is accessed, its state and configuration (right down to the position of the cursor) are exactly the same as when it was last accessed."



Art Unit: 2123

It is therefore inherent that the updates at the server include application data received from the client.

storing authentication information and the desktop configuration on the remote computing device; and  
(Richardson, especially: pp.35-36, right column, "Connection Setup and Shutdown" section)

retrieving the data from the remote computing device for use by the computing device.  
(Richardson, especially: pp.35-36, right column, "Connection Setup and Shutdown" section)

22. In regards to claim 14, Richardson teaches the following limitations:

14. The method of Claim 13, wherein the remote computing device includes a file server, and wherein the steps of storing the data, storing authentication information, and storing the desktop configuration, further include:

storing the data on the file server;  
(Richardson, especially: pp.35-36, right column, "Connection Setup and Shutdown" section)

storing authentication information and the desktop configuration on the file server; and  
(Richardson, especially: pp.35-36, right column, "Connection Setup and Shutdown" section)

securing the data received from the computing device from Unauthorized use by a second computing device.  
(Richardson, especially: pp.35-36, right column, "Connection Setup and Shutdown" section)

23. In regards to claim 15, Richardson does not expressly teach the following limitation:

15. The method of Claim 1, further comprising the steps of:  
providing electronic mail services to the computing device from the remote computing device;

However, Richardson teaches (see Richardson, especially: p.33, para.1):

"In the virtual network computing (VNC) system, server machines supply not only applications and data but also an entire desktop environment that can be accessed from any Internet-connected machine using a simple *software NC*."

It is inherent that if the server supplies the entire desktop environment, it will also be supply any and all application programs.

24. In regards to claim 16, Richardson teaches the following limitations:

16. The method of Claim 1, wherein the remote computing device includes a domain controller and wherein the domain controller performs the steps of:

managing access to the remote computing device; and  
(Richardson, especially: pp.35-36, right column, "Connection Setup and Shutdown" section)

securing the remote computing device from unauthorized access.  
(Richardson, especially: pp.35-36, right column, "Connection Setup and Shutdown" section)

25. In regards to claim 17, Richardson teaches the following limitations:

17. The method of Claim 1, wherein the remote computing device includes a plurality of computing devices, and wherein the method of Claim 1 further comprises the steps of:

determining whether the computing device has previously been connected to one of the plurality of remote computing devices; and  
(Richardson, especially: pp.36-37 "Any User Interface, Anywhere")

if so, then the step of connecting a computing device to a remote computing device includes reconnecting the computing device to the one of the plurality of remote computing devices.  
(Richardson, especially: pp.36-37 "Any User Interface, Anywhere")

26. In regards to claim 18, Richardson teaches the following limitations:

18. A method of providing computing services in a networked computing environment, comprising the steps of:

connecting a computing device to a remote terminal server via a networked computing environment;  
(Richardson, especially: p.33; and p.34, left column, "Thin Clients" section; and p.36, "VNC Viewers" and "VNC Servers" sections)

Examiner interprets that:

- (a) the "user's terminal" correspond to the claimed "a computing device;
- (b) the "VNC server" corresponds to the claimed "remote computing device";
- (c) the "VNC viewer" corresponds to the claimed "a software module";

Art Unit: 2123

authenticating authority for the computing device to connect to the remote terminal server;  
(Richardson, especially: pp.35-36, right column, "Connection Setup and Shutdown" section)

providing the computing device a software module from the terminal server for allowing exchange of data between the computing device and the remote terminal Server;  
(Richardson, especially: p.33; and p.34, left column, "Thin Clients" section; and p.36, "VNC Viewers" and "VNC Servers" sections)

Examiner interprets that:

- (a) the "user's terminal" correspond to the claimed "a computing device";
- (b) the "VNC server" corresponds to the claimed "remote computing device";
- (c) the "VNC viewer" corresponds to the claimed "a software module";

providing the computing device, through the software module, an emulation of an operating system of the remote terminal server;  
(Richardson, especially: pp.33-34 and Fig.2)

Examiner interprets the claimed "emulation" as corresponding to Richardson's teaching that (see p.33, para.1): "In the virtual network computing (VNC) system, server machines supply not only applications and data but also an entire desktop environment that can be accessed from any Internet-connected machine using a simple *software* NC."

Examiner finds that since the client has no operating system of its own, it is inherent that it emulates the one stored in the server.

providing the computing device, through the software module, an emulation of the computing device's desktop configuration, the desktop configuration being passed to the computing device from the remote terminal server;  
(Richardson, especially: pp.33-34 and Fig.2)

Examiner interprets the claimed "emulation" as corresponding to Richardson's teaching that (see p.33, para.1): "In the virtual network computing (VNC) system, server machines supply not only applications and data but also an entire desktop environment that can be accessed from any Internet-connected machine using a simple *software* NC."

Examiner interprets Richardson's "entire desktop environment" correspond to applicant's "desktop configuration".

monitoring actions at the computing device by the operating system of the remote terminal server;  
(Richardson, especially: pp.33-34 and Fig.2)

Art Unit: 2123

Richardson teaches (see p.33, para.1): "Whenever and wherever a VNC desktop is accessed, its state and configuration (right down to the position of the cursor) are exactly the same as when it was last accessed."

It is therefore inherent that the actions at the client are monitored by the server.

in response to the actions at the computing device, updating the emulation of the operating system provided to the computing device;  
(Richardson, especially: pp.33-34 and Fig.2)

Richardson teaches (see p.33, para.1): "Whenever and wherever a VNC desktop is accessed, its state and configuration (right down to the position of the cursor) are exactly the same as when it was last accessed."

It is therefore inherent that the actions at the client result in updates at the server.

in response to the actions at the computing device, updating the emulation of the desktop configuration provided to the computing device;  
(Richardson, especially: pp.33-34 and Fig.2)

Richardson teaches (see p.33, para.1): "Whenever and wherever a VNC desktop is accessed, its state and configuration (right down to the position of the cursor) are exactly the same as when it was last accessed."

It is therefore inherent that the updates at the server are then reflected in the virtual desktop displayed in the client.

providing the computing device use of a software application, the software application being resident on the remote terminal server; and  
(Richardson, especially: pp.33-34 and Fig.2)

Examiner interprets the claimed "emulation" as corresponding to Richardson's teaching that (see p.33, para.1): "In the virtual network computing (VNC) system, server machines supply not only applications and data but also an entire desktop environment that can be accessed from any Internet-connected machine using a simple *software* NC."

Examiner interprets Richardson's "applications and data" correspond to applicant's "software application".

receiving data at the computing device, and storing the data received at the computing device on the remote terminal server.  
(Richardson, especially: pp.33-34 and Fig.2)

Art Unit: 2123

Richardson teaches (see p.33, para.1): "Whenever and wherever a VNC desktop is accessed, its state and configuration (right down to the position of the cursor) are exactly the same as when it was last accessed."

It is therefore inherent that the updates at the server include application data received from the client.

27. In regards to claim 19, Richardson teaches the following limitations:

19. The method of Claim 18, wherein the step of providing the computing device use of a software application, further comprises the steps of:

providing a plurality of software applications subscribed to for use by the computing device; and  
(Richardson, especially: pp.33-34 and Fig.2)

Examiner interprets the claimed "emulation" as corresponding to Richardson's teaching that (see p.33, para.1): "In the virtual network computing (VNC) system, server machines supply not only applications and data but also an entire desktop environment that can be accessed from any Internet-connected machine using a simple *software* NC."

Examiner interprets Richardson's "applications and data" correspond to applicant's "software application".

providing changes to the plurality of software applications at the remote terminal server.  
(Richardson, especially: pp.33-34 and Fig.2)

Richardson teaches (see p.33, para.1): "Whenever and wherever a VNC desktop is accessed, its state and configuration (right down to the position of the cursor) are exactly the same as when it was last accessed."

It is therefore inherent that application data is stored by the server.

28. In regards to claim 20, Richardson teaches the following limitations:

20. A computer readable medium having stored thereon computer-executable instructions which when executed by a computer, perform the steps of:

providing a computing device a software module from a remote computing device for allowing exchange of data between the computing device and the remote computing device;  
(Richardson, especially: p.33; and p.34, left column, "Thin Clients" section; and p.36, "VNC Viewers" and "VNC Servers" sections)

Examiner interprets that:

Art Unit: 2123

- (a) the "user's terminal" correspond to the claimed "a computing device;
- (b) the "VNC server" corresponds to the claimed "remote computing device";
- (c) the "VNC viewer" corresponds to the claimed "a software module";

providing the computing device, through the software module, an emulation of an operating system of the remote computing device;  
(Richardson, especially: pp.33-34 and Fig.2)

Examiner interprets the claimed "emulation" as corresponding to Richardson's teaching that (see p.33, para.1): "In the virtual network computing (VNC) system, server machines supply not only applications and data but also an entire desktop environment that can be accessed from any Internet-connected machine using a simple *software* NC."

Examiner finds that since the client has no operating system of its own, it is inherent that it emulates the one stored in the server.

providing the computing device, through the software module, an emulation of the computing device's desktop configuration, the desktop configuration being passed to the computing device from the remote computing device;  
(Richardson, especially: pp.33-34 and Fig.2)

Examiner interprets the claimed "emulation" as corresponding to Richardson's teaching that (see p.33, para.1): "In the virtual network computing (VNC) system, server machines supply not only applications and data but also an entire desktop environment that can be accessed from any Internet-connected machine using a simple *software* NC."

Examiner interprets Richardson's "entire desktop environment" correspond to applicant's "desktop configuration".

monitoring actions at the computing device by the operating system of the remote computing device;  
(Richardson, especially: pp.33-34 and Fig.2)

Richardson teaches (see p.33, para.1): "Whenever and wherever a VNC desktop is accessed, its state and configuration (right down to the position of the cursor) are exactly the same as when it was last accessed."

It is therefore inherent that the actions at the client are monitored by the server.

in response to the actions at the computing device, updating the emulation of the operating system provided to the computing device; and  
(Richardson, especially: pp.33-34 and Fig.2)

Art Unit: 2123

Richardson teaches (see p.33, para.1): "Whenever and wherever a VNC desktop is accessed, its state and configuration (right down to the position of the cursor) are exactly the same as when it was last accessed."

It is therefore inherent that the actions at the client result in updates at the server.

in response to the actions at the computing device, updating the emulation of the desktop configuration provided to the computing device.

(Richardson, especially: pp.33-34 and Fig.2)

Richardson teaches (see p.33, para.1): "Whenever and wherever a VNC desktop is accessed, its state and configuration (right down to the position of the cursor) are exactly the same as when it was last accessed."

It is therefore inherent that the updates at the server are then reflected in the virtual desktop displayed in the client.

29. In regards to claim 22, Richardson teaches the following limitations:

22. A computer readable medium of Claim 20 having stored thereon computer-executable instructions which when executed by a computer, further perform the steps of:

providing the computing device use of a software application, the software application being resident on the remote computing device; and

(Richardson, especially: pp.33-34 and Fig.2)

Examiner interprets the claimed "emulation" as corresponding to Richardson's teaching that (see p.33, para.1): "In the virtual network computing (VNC) system, server machines supply not only applications and data but also an entire desktop environment that can be accessed from any Internet-connected machine using a simple *software* NC."

Examiner interprets Richardson's "applications and data" correspond to applicant's "software application".

providing changes to the software application at the remote computing device.

(Richardson, especially: pp.33-34 and Fig.2)

Richardson teaches (see p.33, para.1): "Whenever and wherever a VNC desktop is accessed, its state and configuration (right down to the position of the cursor) are exactly the same as when it was last accessed."

It is therefore inherent that application data is stored by the server.

30. In regards to claim 23, Richardson teaches the following limitations:

Art Unit: 2123

23. The computer readable medium of Claim 20 having stored thereon computer-executable instructions which when executed by a computer, further perform the steps of:

receiving data from the computing device;  
(Richardson, especially: pp.33-34 and Fig.2)

storing the data received from the computing device at the remote computing device;  
(Richardson, especially: pp.33-34 and Fig.2)

Richardson teaches (see p.33, para.1): "Whenever and wherever a VNC desktop is accessed, its state and configuration (right down to the position of the cursor) are exactly the same as when it was last accessed."

It is therefore inherent that the updates at the server include application data received from the client.

storing authentication information and the desktop configuration at the remote computing device; and  
(Richardson, especially: pp.35-36, right column, "Connection Setup and Shutdown" section)

retrieving the data from the remote computing device for use by the computing device.  
(Richardson, especially: pp.35-36, right column, "Connection Setup and Shutdown" section)

31. In regards to claim 24, Richardson teaches the following limitations:

24. A propagated signal on which is carried computer-executable instructions which when executed by a computer, perform the steps of:

providing a computing device a software module from a remote computing device for allowing exchange of data between the computing device and the remote computing device;  
(Richardson, especially: p.33; and p.34, left column, "Thin Clients" section; and p.36, "VNC Viewers" and "VNC Servers" sections)

Examiner interprets that:

(a) the "user's terminal" correspond to the claimed "a computing device";  
(b) the "VNC server" corresponds to the claimed "remote computing device";  
(c) the "VNC viewer" corresponds to the claimed "a software module";

providing the computing device, through the software module, an emulation of an operating system of the remote computing device;  
(Richardson, especially: pp.33-34 and Fig.2)



Art Unit: 2123

Examiner interprets the claimed "emulation" as corresponding to Richardson's teaching that (see p.33, para.1): "In the virtual network computing (VNC) system, server machines supply not only applications and data but also an entire desktop environment that can be accessed from any Internet-connected machine using a simple *software NC*."

Examiner finds that since the client has no operating system of its own, it is inherent that it emulates the one stored in the server.

providing the computing device, through the software module, an emulation of the computing device's desktop configuration, the desktop configuration being passed to the computing device from the remote computing device;  
(Richardson, especially: pp.33-34 and Fig.2)

Examiner interprets the claimed "emulation" as corresponding to Richardson's teaching that (see p.33, para.1): "In the virtual network computing (VNC) system, server machines supply not only applications and data but also an entire desktop environment that can be accessed from any Internet-connected machine using a simple *software NC*."

Examiner interprets Richardson's "entire desktop environment" correspond to applicant's "desktop configuration".

monitoring actions at the computing device by the operating system of the remote computing device;  
(Richardson, especially: pp.33-34 and Fig.2)

Richardson teaches (see p.33, para.1): "Whenever and wherever a VNC desktop is accessed, its state and configuration (right down to the position of the cursor) are exactly the same as when it was last accessed."

It is therefore inherent that the actions at the client are monitored by the server.

in response to the actions at the computing device, updating the emulation of the operating system provided to the computing device; and  
(Richardson, especially: pp.33-34 and Fig.2)

Richardson teaches (see p.33, para.1): "Whenever and wherever a VNC desktop is accessed, its state and configuration (right down to the position of the cursor) are exactly the same as when it was last accessed."

It is therefore inherent that the actions at the client result in updates at the server.

in response to the actions at the computing device, updating the emulation of the desktop configuration provided to the computing device.  
(Richardson, especially: pp.33-34 and Fig.2)

Richardson teaches (see p.33, para.1): "Whenever and wherever a VNC desktop is accessed, its state and configuration (right down to the position of the cursor) are exactly the same as when it was last accessed."

It is therefore inherent that the updates at the server are then reflected in the virtual desktop displayed in the client.

32. In regards to claim 26, Richardson teaches the following limitations:

26. The propagated signal of Claim 24 carrying thereon computer-executable instructions which when executed by a computer, further perform the steps of:

providing the computing device use of a software application, the software application being resident on the remote computing device; and  
(Richardson, especially: pp.33-34 and Fig.2)

Examiner interprets the claimed "emulation" as corresponding to Richardson's teaching that (see p.33, para.1): "In the virtual network computing (VNC) system, server machines supply not only applications and data but also an entire desktop environment that can be accessed from any Internet-connected machine using a simple *software* NC."

Examiner interprets Richardson's "applications and data" correspond to applicant's "software application".

providing changes to the software application at the remote computing device.  
(Richardson, especially: pp.33-34 and Fig.2)

Richardson teaches (see p.33, para.1): "Whenever and wherever a VNC desktop is accessed, its state and configuration (right down to the position of the cursor) are exactly the same as when it was last accessed."

It is therefore inherent that the updates at the server are then reflected in the virtual desktop displayed in the client.

33. In regards to claim 27, Richardson teaches the following limitations:

27. The propagated signal of Claim 24 carrying thereon computer-executable instructions which when executed by a computer, further perform the steps of:

receiving data from the computing device;  
(Richardson, especially: pp.33-34 and Fig.2)

storing the data received from the computing device at the remote computing device  
(Richardson, especially: pp.33-34 and Fig.2)

Art Unit: 2123

Richardson teaches (see p.33, para.1): "Whenever and wherever a VNC desktop is accessed, its state and configuration (right down to the position of the cursor) are exactly the same as when it was last accessed."

It is therefore inherent that the updates at the server include application data received from the client.

storing authentication information and the desktop configuration at the remote computing device; and  
(Richardson, especially: pp.35-36, right column, "Connection Setup and Shutdown" section)

retrieving the data from the remote computing device for use by the computing device.  
(Richardson, especially: pp.35-36, right column, "Connection Setup and Shutdown" section)

34. In regards to claim 28, Richardson teaches the following limitations:

28. A system for providing computing services in a networked computing environment, comprising:

a domain controller operative to authenticate authority for a computing device to connect to a remote terminal server via a networked computing environment;  
(Richardson, especially: pp.35-36, right column, "Connection Setup and Shutdown" section)

a remote terminal server operative to connect to a computing device;  
(Richardson, especially: pp.35-36, right column, "Connection Setup and Shutdown" section)

to provide the computing device a software module for allowing exchange of data between the computing device and the remote terminal server;  
(Richardson; especially: p.33; and p.34, left column, "Thin Clients" section; and p.36, "VNC Viewers" and "VNC Servers" sections)

Examiner interprets that:

- (a) the "user's terminal" correspond to the claimed "a computing device;
- (b) the "VNC server" corresponds to the claimed "remote computing device";
- (c) the "VNC viewer" corresponds to the claimed "a software module";

to provide the computing device, through the software module, an emulation of an operating system of the remote terminal server;  
(Richardson, especially: pp.33-34 and Fig.2)

Art Unit: 2123

Examiner interprets the claimed "emulation" as corresponding to Richardson's teaching that (see p.33, para.1): "In the virtual network computing (VNC) system, server machines supply not only applications and data but also an entire desktop environment that can be accessed from any Internet-connected machine using a simple *software NC*."

Examiner finds that since the client has no operating system of its own, it is inherent that it emulates the one stored in the server.

to provide the computing device, through the software module, an emulation of the computing device's desktop configuration, the desktop configuration being passed to the computing device from the remote terminal server;  
(Richardson, especially: pp.33-34 and Fig.2)

Examiner interprets the claimed "emulation" as corresponding to Richardson's teaching that (see p.33, para.1): "In the virtual network computing (VNC) system, server machines supply not only applications and data but also an entire desktop environment that can be accessed from any Internet-connected machine using a simple *software NC*."

Examiner interprets Richardson's "entire desktop environment" correspond to applicant's "desktop configuration".

to monitor actions at the computing device by the operating system of the remote terminal server;  
(Richardson, especially: pp.33-34 and Fig.2)

Richardson teaches (see p.33, para.1): "Whenever and wherever a VNC desktop is accessed, its state and configuration (right down to the position of the cursor) are exactly the same as when it was last accessed."

It is therefore inherent that the actions at the client are monitored by the server.

to update the emulation of the operating system provided to the computing device in response to the actions at the computing device;  
(Richardson, especially: pp.33-34 and Fig.2)

Richardson teaches (see p.33, para.1): "Whenever and wherever a VNC desktop is accessed, its state and configuration (right down to the position of the cursor) are exactly the same as when it was last accessed."

It is therefore inherent that the actions at the client result in updates at the server.

to update the emulation of the desktop configuration provided to the computing device in response to the actions at the computing device;  
(Richardson, especially: pp.33-34 and Fig.2)

Art Unit: 2123

Richardson teaches (see p.33, para.1): "Whenever and wherever a VNC desktop is accessed, its state and configuration (right down to the position of the cursor) are exactly the same as when it was last accessed."

It is therefore inherent that the updates at the server are then reflected in the virtual desktop displayed in the client.

to provide the computing device use of a software application, the software application being resident on the remote terminal server; and a file server operative  
(Richardson, especially: pp.33-34 and Fig.2)

Examiner interprets the claimed "emulation" as corresponding to Richardson's teaching that (see p.33, para.1): "In the virtual network computing (VNC) system, server machines supply not only applications and data but also an entire desktop environment that can be accessed from any Internet-connected machine using a simple *software NC*."

Examiner interprets Richardson's "applications and data" correspond to applicant's "software application".

to receive data from the computing device, and

(Richardson, especially: pp.33-34 and Fig.2)

Richardson teaches (see p.33, para.1): "Whenever and wherever a VNC desktop is accessed, its state and configuration (right down to the position of the cursor) are exactly the same as when it was last accessed."

It is therefore inherent that the updates at the server include application data received from the client.

to store the data received at the computing device at the remote terminal server.

(Richardson, especially: pp.33-34 and Fig.2)

Richardson teaches (see p.33, para.1): "Whenever and wherever a VNC desktop is accessed, its state and configuration (right down to the position of the cursor) are exactly the same as when it was last accessed."

It is therefore inherent that the data received in the server is stored, otherwise it would be impossible for "...its state and configuration (right down to the position of the cursor) are exactly the same as when it was last accessed."

35. In regards to claim 29, Richardson teaches the following limitations:

Art Unit: 2123

29. The system of Claim 28, wherein the terminal server is further operative:

to provide a plurality of software applications subscribed to for use by the computing device; and

(Richardson, especially: pp.33-34 and Fig.2)

Examiner interprets the claimed "emulation" as corresponding to Richardson's teaching that (see p.33, para.1): "In the virtual network computing (VNC) system, server machines supply not only applications and data but also an entire desktop environment that can be accessed from any Internet-connected machine using a simple *software* NC."

Examiner interprets Richardson's "applications and data" correspond to applicant's "software application".

To provide changes to the plurality of software applications at the remote terminal server.

(Richardson, especially: pp.33-34 and Fig.2)

Richardson teaches (see p.33, para.1): "Whenever and wherever a VNC desktop is accessed, its state and configuration (right down to the position of the cursor) are exactly the same as when it was last accessed."

It is therefore inherent that application data is stored by the server.

36. In regards to claim 30, Richardson teaches the following limitations:

30. The system of Claim 28, whereby the domain controller is further operative to manage access to the terminal server by the computing device; and

(Richardson, especially: pp.35-36, right column, "Connection Setup and Shutdown" section)

to secure the terminal server from unauthorized access.

(Richardson, especially: pp.35-36, right column, "Connection Setup and Shutdown" section)

37. In regards to claim 31, Richardson teaches the following limitations:

31. The system of Claim 28, wherein the remote terminal server includes a plurality of terminal servers, and whereby the domain controller is further operative

to determine whether the computing device has previously been connected to one of the plurality of terminal servers; and

(Richardson, especially: pp.36-37 "Any User Interface, Anywhere")

if so, then to reconnect the computing device to the one of the plurality of terminal servers.

(Richardson, especially: pp.36-37 "Any User Interface, Anywhere")

38. In regards to claim 32, Richardson teaches the following limitations:

32. The system of Claim 28, further comprising,  
a web server operative to provide a web page, through the terminal server, to the  
computing device, the web page containing the software module embedded therein.  
(Richardson, especially: pp.34-35, right column, "Java: Access Through a  
Browser" section)

***Claim Rejections - 35 USC § 103***

39. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all  
obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

40. The prior art used for these rejections is as follows:

41. Richardson et al. "Virtual Network Computing", IEEE Internet Computing. Vol.2,  
No.1, Jan. 1998. pp.33-38. (Henceforth referred to as "**Richardson**").

42. Fratto, M. "Remote Control: Let Your Browser Do The Walking". Network  
Computing Online. March 9, 1998. (Henceforth referred to as "**Fratto**").

43. The claim rejections are hereby summarized for Applicant's convenience. The  
detailed rejections follow.

**44. Claims 8, 21, 25, 33 are rejected under 35 U.S.C. 103(a) as being  
unpatentable over Richardson in view of Fratto.**

45. In regards to claim 8, Richardson teaches the use of Java applets that run on  
Java-capable browsers (see p.34 "Java: Access through a Browser"; and p.36

Art Unit: 2123

"VNC Viewers." Richardson, however, does not expressly teach the use of

"ActiveX", as claimed in the following limitations:

8. The method of Claim 6, wherein the software module is an ActiveX control.

However, the use of ActiveX instead of Java Applets for the same functional purpose was a well known design choice at the time the invention was made.

Fratto, for example, expressly teaches: "With the proliferation of Web browsers on every desktop ..., combined with the development of interactive of interactive content for the browsers (Java, ActiveX and assorted plug-ins), remote control is possible from any desktop equipped with a Web browser – regardless of operating system." (See p.1, para.3).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to use ActiveX instead of the Java Applets taught in Richardson, because Fratto teaches that they were well known in the art as being design choice alternatives at the time the invention was made.

46. In regards to claim 21, Richardson teaches the following limitations:

21. The computer readable medium of Claim 20 having stored thereon computer-executable instructions which when executed by a computer, prior to the step of providing a computing device a software module from a remote computing device for allowing exchange of data between the computing device and the remote computing device, further perform the steps of:

connecting a computing device to a remote computing device via a networked computing environment;  
(Richardson, especially: p.33; and p.34, left column, "Thin Clients" section; and p.36, "VNC Viewers" and "VNC Servers" sections)

Examiner interprets that:

(a) the "user's terminal" correspond to the claimed "a computing device;



Art Unit: 2123

- (b) the "VNC server" corresponds to the claimed "remote computing device";
- (c) the "VNC viewer" corresponds to the claimed "a software module";

authenticating authority for the computing device to connect to the remote computing device; and  
(Richardson, especially: pp.35-36, right column, "Connection Setup and Shutdown" section)

Richardson also teaches the use of Java applets that run on Java-capable browsers (see p.34 "Java: Access through a Browser"; and p.36 "VNC Viewers."

Richardson, however, does not expressly teach the use of "ActiveX", as claimed in the following limitations:

providing the computing device a web page from the remote computing device, the web page having the software module embedded therein, whereby the software module is an ActiveX control.

However, the use of ActiveX instead of Java Applets for the same functional purpose was a well known design choice at the time the invention was made.

Fratto, for example, expressly teaches: "With the proliferation of Web browsers on every desktop ..., combined with the development of interactive of interactive content for the browsers (Java, ActiveX and assorted plug-ins), remote control is possible from any desktop equipped with a Web browser – regardless of operating system." (See p.1, para.3).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to use ActiveX instead of the Java Applets taught in Richardson, because Fratto teaches that they were well known in the art as being design choice alternatives at the time the invention was made.

47. In regards to claim 25, Richardson teaches the following limitations:

Art Unit: 2123

25. The propagated signal of Claim 24 carrying thereon computer-executable instructions which when executed by a computer, prior to the step of providing a computing device a software module from a remote computing device for allowing exchange of data between the computing device and the remote computing device, further perform the steps of:

connecting a computing device to a remote computing device via a networked computing environment;  
(Richardson, especially: p.33; and p.34, left column, "Thin Clients" section; and p.36, "VNC Viewers" and "VNC Servers" sections)

Examiner interprets that:

- (a) the "user's terminal" correspond to the claimed "a computing device";
- (b) the "VNC server" corresponds to the claimed "remote computing device";
- (c) the "VNC viewer" corresponds to the claimed "a software module";

authenticating authority for the computing device to connect to the remote computing device; and  
(Richardson, especially: pp.35-36, right column, "Connection Setup and Shutdown" section)

Richardson also teaches the use of Java applets that run on Java-capable browsers (see p.34 "Java: Access through a Browser"; and p.36 "VNC Viewers."

Richardson, however, does not expressly teach the use of "ActiveX", as claimed in the following limitations:

providing the computing device a web page from the remote computing device, the web page having the software module embedded therein, whereby the software module is an ActiveX control.

However, the use of ActiveX instead of Java Applets for the same functional purpose was a well known design choice at the time the invention was made.

Fratto, for example, expressly teaches: "With the proliferation of Web browsers on every desktop ..., combined with the development of interactive of interactive content for the browsers (Java, ActiveX and assorted plug-ins),

Art Unit: 2123

remote control is possible from any desktop equipped with a Web browser – regardless of operating system.” (See p.1, para.3).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to use ActiveX instead of the Java Applets taught in Richardson, because Fratto teaches that they were well known in the art as being design choice alternatives at the time the invention was made.

48. In regards to claim 33, Richardson teaches the use of Java applets that run on Java-capable browsers (see p.34 “Java: Access through a Browser”; and p.36 “VNC Viewers.”

Richardson, however, does not expressly teach the use of “ActiveX”, as claimed in the following limitations:

33. The system of Claim 32, whereby the software module is an ActiveX control.

However, the use of ActiveX instead of Java Applets for the same functional purpose was a well known design choice at the time the invention was made.

Fratto, for example, expressly teaches: “With the proliferation of Web browsers on every desktop ..., combined with the development of interactive of interactive content for the browsers (Java, ActiveX and assorted plug-ins), remote control is possible from any desktop equipped with a Web browser – regardless of operating system.” (See p.1, para.3).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to use ActiveX instead of the Java Applets taught in

Richardson, because Fratto teaches that they were well known in the art as being design choice alternatives at the time the invention was made.

### ***Conclusion***

49. Examiner notes that the Anand reference cited in the PTO-892 form teaches the following: "Java applets, Netscape plug-ins and ActiveX controls have led to the popularization of a new paradigm: extensive downloading of executable code into applications to enhance the functionality of the desktop." (see Abstract).
50. Applicant's submission of an information disclosure statement under 37 CFR 1.97(c) with the fee set forth in 37 CFR 1.17(p) on 8/6/2004 prompted the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 609(B)(2)(i). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

***Correspondence Information***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ayal I. Sharon whose telephone number is (571) 272-3714. The examiner can normally be reached on Monday through Thursday, and the first Friday of a biweek, 8:30 am – 5:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kevin Teska can be reached at (571) 272-3716.

Any response to this office action should be faxed to (703) 872-9306, or mailed to:

USPTO  
P.O. Box 1450  
Alexandria, VA 22313-1450

or hand carried to:

USPTO  
Customer Service Window  
Randolph Building  
401 Dulany Street  
Alexandria, VA 22314

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Tech Center 2100 Receptionist, whose telephone number is (571) 272-2100.

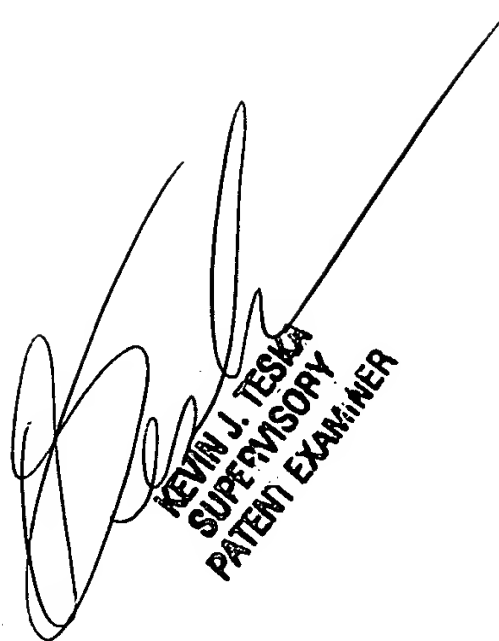
Application/Control Number: 09/804,979  
Art Unit: 2123

Page 29

Ayal I. Sharon

Art Unit 2123

February 21, 2005



KEVIN J. TESKA  
SUPERVISORY  
PATENT EXAMINER